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Academic Education:

1996-2001	Ph.D. (Microbial Ecology) Department of Industrial Microbiology, University College Dublin, Ireland. Advisor: Dr. N.J.W. Clipson
1992-1996	B.S. (Industrial Microbiology). University College Dublin, Ireland. Minors – Chemistry, Biochemistry and Biostatistics.

Research and Professional Experience:

2004-present	Scientific Engineering Associate, Lawrence Berkeley National Lab
2004-2004	Postdoctoral Fellow, Lawrence Berkeley National Lab Research on: (1) Development of high density DNA microarrays for monitoring complex bacterial populations. (2) Monitoring bacterial population dynamics during field scale chromium bioremediation. (3) Bacterial stress response to heavy metals and actinides. (4) RNA labeling and direct microarray hybridization for analysis of active prokaryotes.
2002-2004	Postdoctoral Fellow, Department of Environmental Science, Policy and Management, Division of Ecosystem Sciences, UC Berkeley. Research on: (1) Bioremediation of uranium contaminated subsurface sediments by indigenous microorganisms. (2) Bioremediation of chromium contaminated subsurface sediments. (3) Molecular analysis of microbial populations associated with uranium bio-reduction and subsequent re-oxidation. (4) Microbial communities as biochemical inputs to forest soil humification processes. (5) Functional probing: Combining stable isotopes with molecular microbial ecology.
2001- 2002	Research Associate, Department of Industrial Microbiology, UC Dublin, Ireland Research on: Bioremediation potential of a creosote contaminated site.
1996- 2001	Enterprise Ireland Graduate Research Fellowship; UC Dublin, Ireland Research on: The impact of land management on grassland microbial populations.

Teaching and workshop activities:

2002-2003	Guest lecturer UC Berkeley ESPM 131: Molecular analysis of soil microbial communities.
2002-2004	Presented a workshop for undergraduates/graduates in UC Berkeley on molecular analysis of soil microbial communities.
2000-2001	Presented an industrial training course: “Fungal identification techniques for the pharmaceutical industry”.
2000-2001	Developed and presented a graduate workshop at UC Dublin in modern molecular techniques for microbial ecology.

Grants and contracts:

2004	NSF Ecosystems award # 0345002 (with M.K. Firestone, UC Berkeley). *Microbial Communities as Biochemical Inputs to Forest Soil Humification Processes*. ($1,000k)
1996-2000	Enterprise Ireland Basic Research Grant ($48k)

Honors and Awards:

2001	Outstanding presentation: Promega Prize for Irish Young Scientist, Society for General Microbiology.
2000	Outstanding presentation: UC Dublin, Science Postgraduate Day.

Current Membership in Professional Societies:

2002-	American Society for Microbiology
2001-	International Society for Microbial Ecology
2002-	International Society for Subsurface Microbiology
2002-	American Geophysical Union

Reviewing activities:

2004-	*Ad hoc* Reviewer for *Microbial Ecology*
2004-	*Ad hoc* Reviewer for *Environmental Science and Technology*

Peer-Reviewed Publications:

Brodie, E.L., DeSantis, T.Z., Joyner, D.C., Baek, S., Larsen, J.T., Andersen, G.L., Hazen, T.C., Herman, D.J., Tokunaga, T.K., Wan, J.M. and Firestone, M.K. Bacterial population dynamics during uranium reduction and re-oxidation: Application of a novel high density oligonucleotide microarray approach. (In preparation for Appl. Environ. Micro.).

Brodie, E.L., Joyner, D.C., Borglin, S.E., Baek, S., Hazen, T.C., Faybishenko, B., Conrad, M., Anderson, G.L., DeSantis, T.Z., Willet, A., and Koenigsberg, S. Reduction of hexavalent chromium by indigenous microorganisms in Hanford sediments: Microbial responses to Hydrogen Release Compounds (HRC). (In preparation for Environ. Sci. Technol.).

Tokunaga, T.K., Wan, J., Pena, J., **Brodie, E.L.**, Firestone, M.K., Hazen, T.C., Sutton, S.R., Lanzirotti, A., Newville, M. Uranium reduction in sediments under diffusion-limited transport of organic carbon. Environ. Sci. Technol.(in review).

Wan, J.M., Tokunaga, T.K., Larsen, J., **Brodie, E.L.**, Wang, Z., Zheng, Z., Herman, D.J., Hazen, T.C., Firestone, M.K. and Sutton S.R. 2004. Reoxidation of bioreduced uranium under reducing conditions. Environ. Sci. Technol. (in review).

Lynch, S.V., **Brodie, E.L.** and Matin, A.C. 2004. Role and regulation of sigma-S in general resistance conferred by low-shear simulated microgravity in *Escherichia coli*. J. Bact. 186:8207-8212.

Kennedy N., **Brodie, E.L.**, Connolly, J. and Clipson N.L.W. 2004. Impact of lime, nitrogen and plant species on bacterial community structure in grassland microcosms. Environ. Micro. 6:1070-1080

Brodie, E.L., Edwards, S. and Clipson, N.J.W. 2003. Soil fungal community structure in a temperate upland grassland soil. FEMS Microb. Ecol. 45:105-114.

Brodie, E.L., Edwards, S. and Clipson, N.J.W. 2002. Bacterial community dynamics across a floristic gradient in a temperate upland grassland ecosystem. Microb. Ecol. 44:260-270.

Brodie, E.L., Clipson, N.J.W., and Davies, W. 1999. Plant microbial dynamics of an upland grassland in response to management factors. Irish J. Agri. Food Res. 38(2): p280.